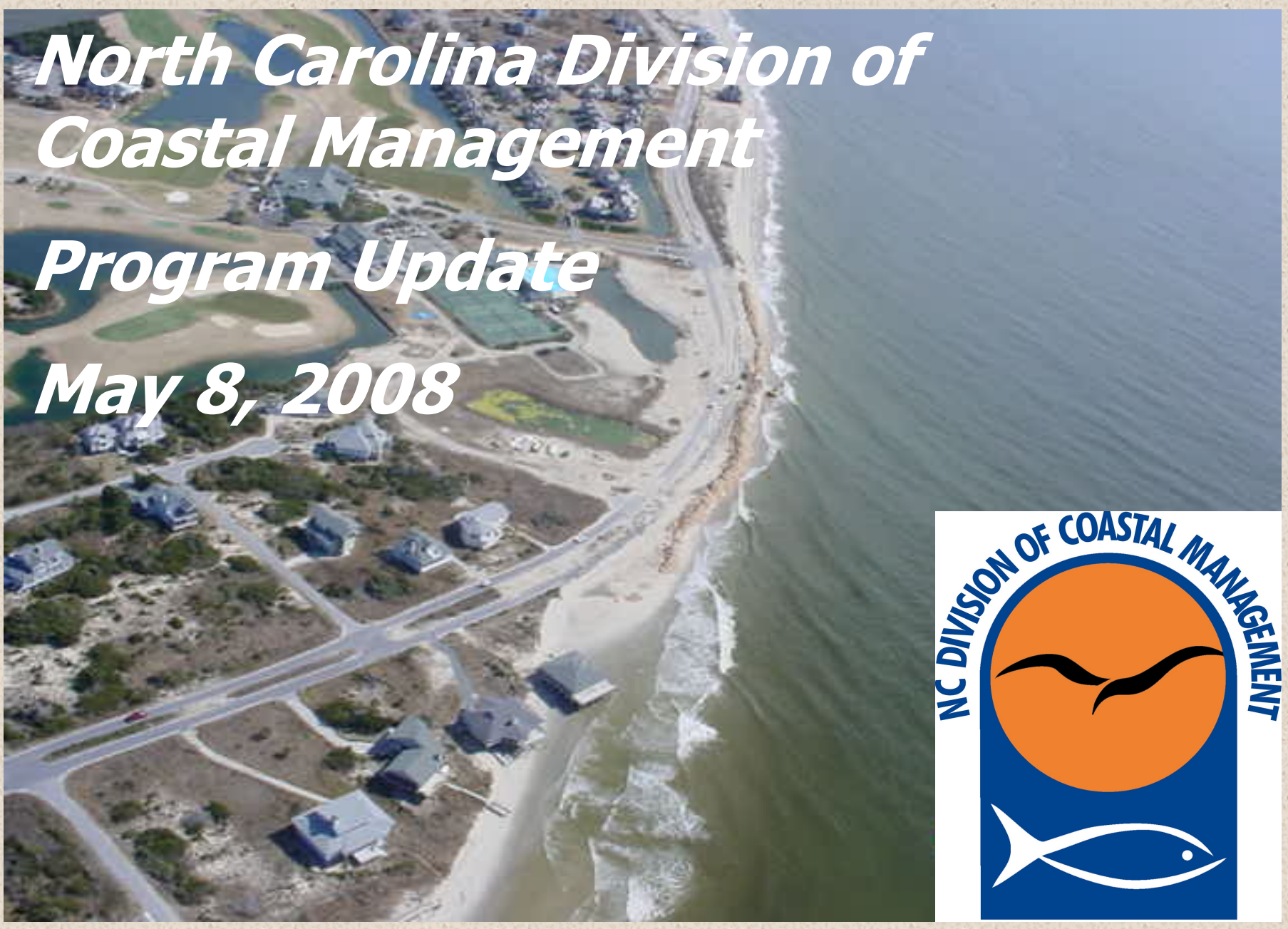
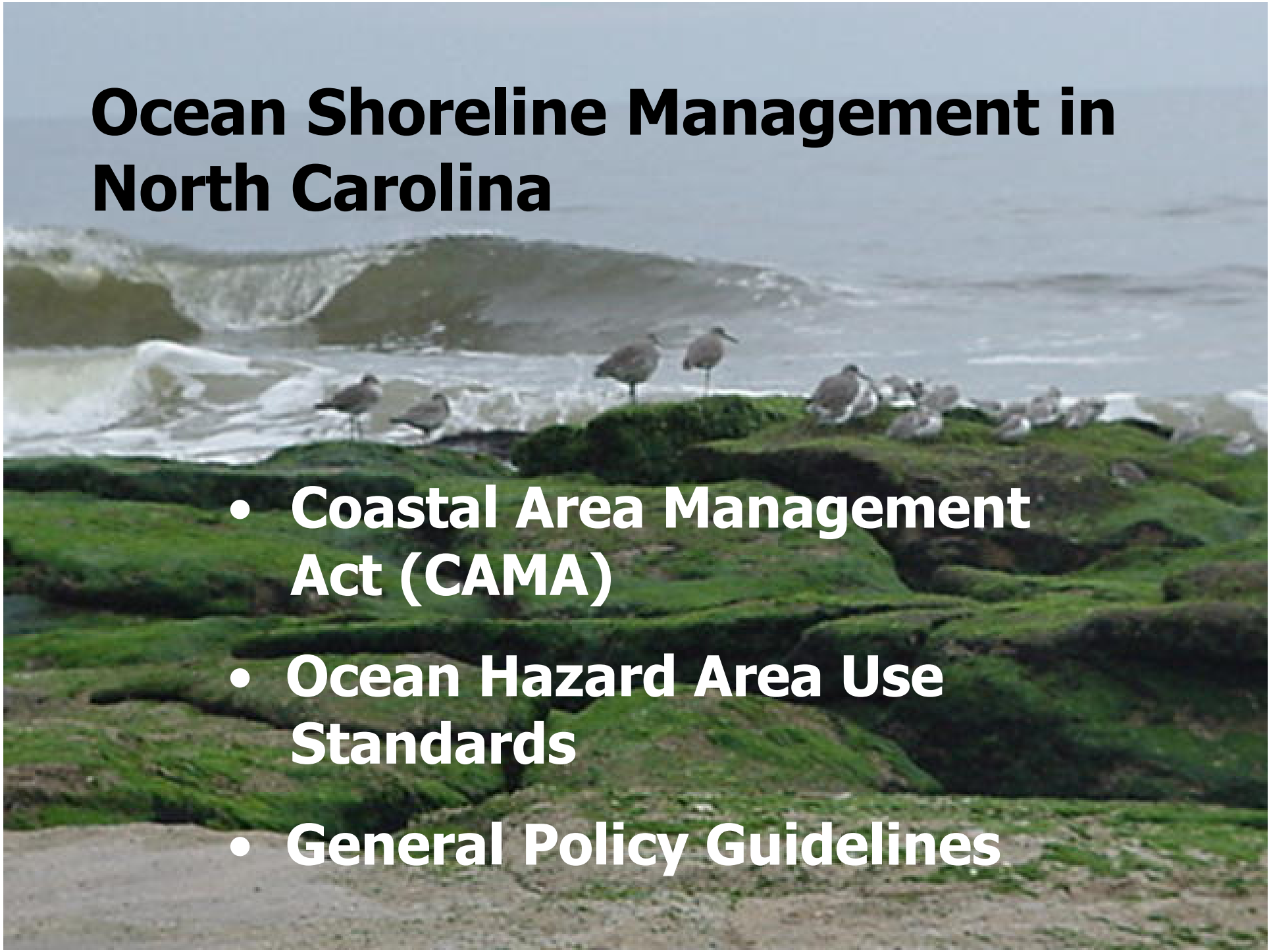


# North Carolina Division of Coastal Management

## Program Update

## May 8, 2008



# Ocean Shoreline Management in North Carolina

- Coastal Area Management Act (CAMA)
- Ocean Hazard Area Use Standards
- General Policy Guidelines

# Coastal Area Management Act Goals

- To provide a management system capable of preserving and managing the natural ecological conditions of the estuarine system, the barrier dune system, and the beaches, so as to safeguard and perpetuate their natural productivity and their biological, economic and esthetic values;

# Coastal Area Management Act Goals

- To insure that the development or preservation of the land and water resources of the coastal area proceeds in a manner consistent with the capability of the land and water for development, use, or preservation based on ecological considerations;

# Coastal Area Management Act Goals

- To insure the orderly and balanced use and preservation of our coastal resources on behalf of the people of North Carolina and the nation;
- To establish policies, guidelines and standards for preservation and development.

# Ocean Hazard Area Use Standards

15A NCAC 07H .0300 (OCEAN HAZARD AREAS)

Management Objective

**To provide management policies and standards for ocean hazard areas that serve to eliminate unreasonable danger to life and property and achieve a balance between the financial, safety and social factors that are involved in hazard area development.**

**The purpose of these Rules shall be to further the goals set out in G.S. 113A-102(b), with particular attention to:**

# Management Objective

- **Minimizing losses to life and property resulting from storms and long-term erosion,**
- **Preventing encroachment of permanent structures on public beach areas,**
- **Preserving the natural ecological conditions of the barrier dune and beach systems, and**

# Management Objective

- **Reducing the public costs of inappropriately sited development.**
- **To protect present common-law and statutory public rights of access to and use of the lands and waters of the coastal area.**

# General Policy Guidelines for the Coastal Area

## 15A NCAC 07M .0200 (Shoreline Erosion Policies)

All means should be taken to identify and develop response measures that will not adversely affect estuarine and marine productivity.

The public right to use and enjoy the ocean beaches must be protected. The protected uses include traditional recreational uses (such as walking, swimming, surf-fishing, and sunbathing) as well as commercial fishing and emergency access for beach rescue services.

Private property rights to oceanfront properties including the right to protect that property in ways that are consistent with public rights should be protected.

# 15A NCAC 07M .0200 (Shoreline Erosion Policies)

**Preferred response measures for shoreline erosion shall include but not be limited to AEC rules, land use planning and land classification, establishment of building setback lines, building relocation, subdivision regulations and management of vegetation.**

# 15A NCAC 07M .0200 (Shoreline Erosion Policies)

**The replenishment of sand on ocean beaches can provide storm protection and a viable alternative to allowing the ocean shoreline to migrate landward threatening to degrade public beaches and cause the loss of public facilities and private property. Experience in North Carolina and other states has shown that beach restoration projects can present a feasible alternative to the loss or massive relocation of oceanfront development.**

# Existing Use Standards

# OCEAN HAZARD AEC'S

- Ocean Erodible Area
- Unvegetated Beach
- High Hazard Flood Area
- Inlet Hazard Area

# OCEAN ERODIBLE AREA

- **An oceanfront zone between the mean low water line and a point landward of the first line of stable natural vegetation equal to 60 X erosion rate + 100 year storm recession.**

# HIGH HAZARD FLOOD AREA

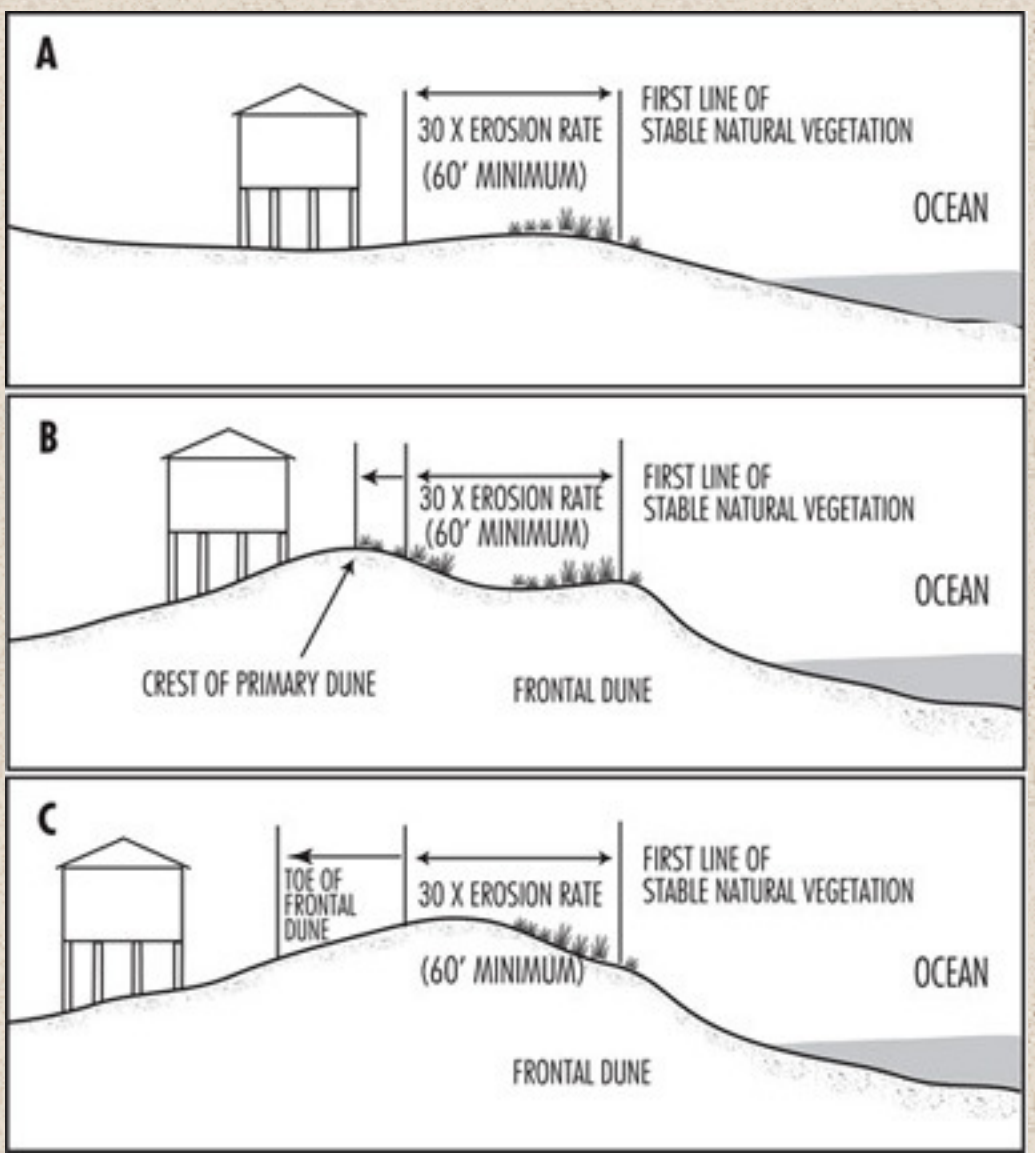
- **Areas subject to high velocity waters.**
- **Identified by VE Zones on the Flood Insurance Rate Maps.**

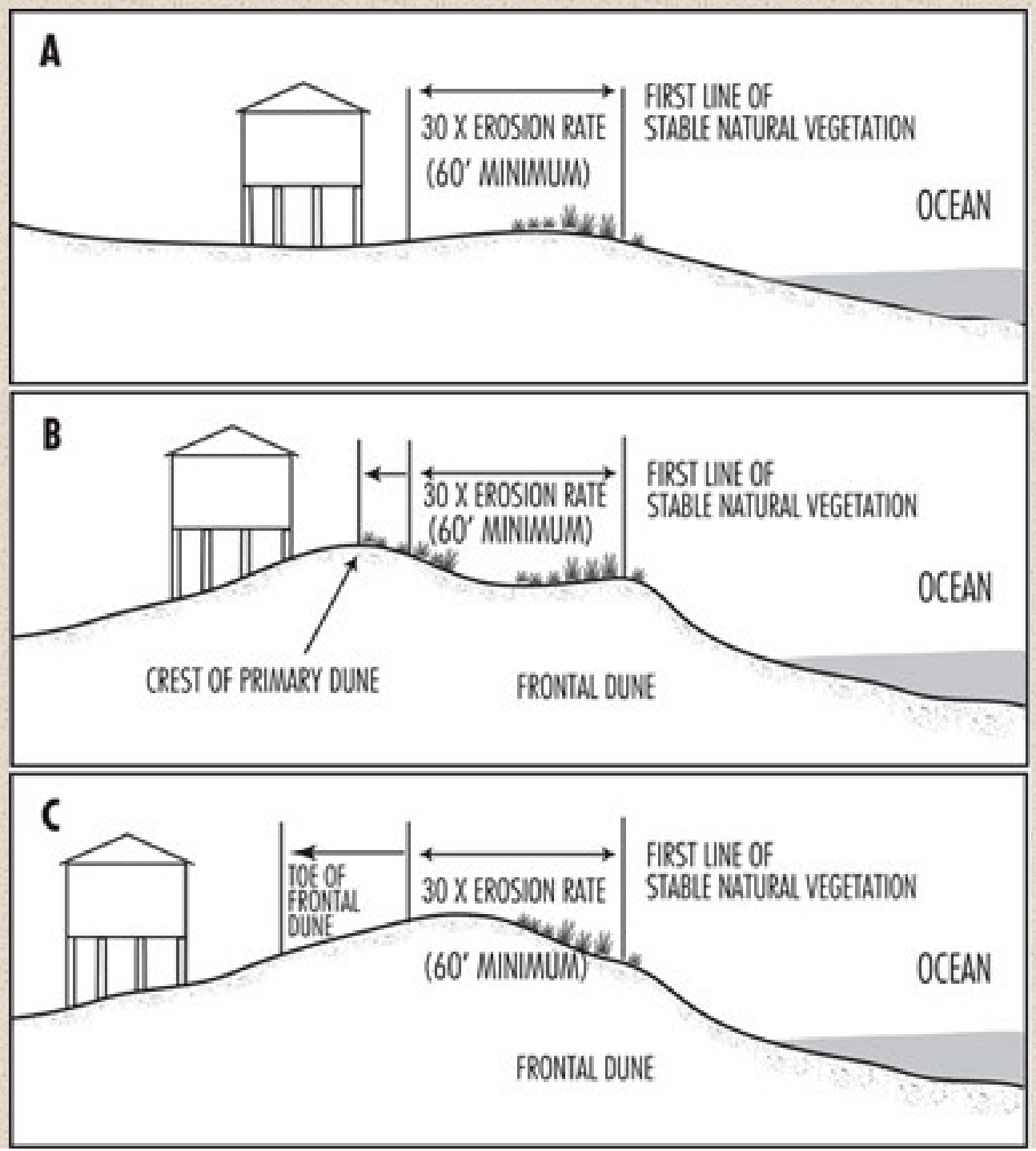
# INLET HAZARD AREA

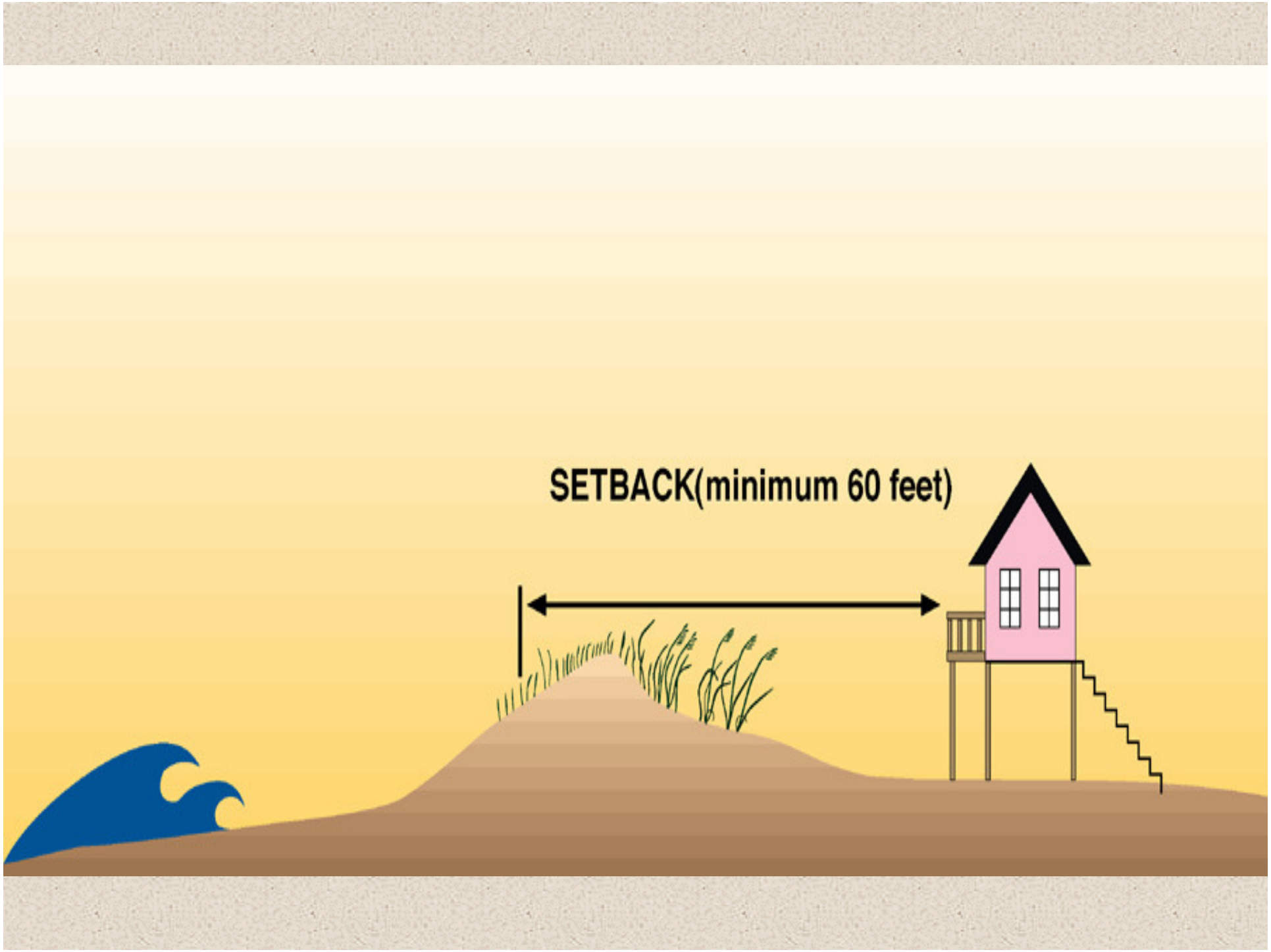
- **Areas vulnerable to erosion and flooding because of proximity to ocean inlets.**
- **Identified on the Ocean Hazard System Maps.**

# Ocean Erodible Area

- **Setbacks are based on erosion rates and are measured from the first line of stable natural vegetation.**
- **Minimum of 60 feet for structures 5,000 square feet or less and single-family houses.**




A
30 X EROSION RATE
(60' MINIMUM)
FIRST LINE OF
STABLE NATURAL VEGETATION
OCEAN
B
30 X EROSION RATE
(60' MINIMUM)
FIRST LINE OF
STABLE NATURAL VEGETATION
OCEAN
CREST OF PRIMARY DUNE
FRONTAL DUNE
C
TOE OF
FRONTAL
DUNE
30 X EROSION RATE
FIRST LINE OF
STABLE NATURAL VEGETATION
(60' MINIMUM)
OCEAN
FRONTAL DUNE


SETBACK(minimum 60 feet)


FIRST LINE OF
STABLE NATURAL
VEGEATION

# Oceanfront Setback Exceptions

# Proposed Oceanfront Setback Rules

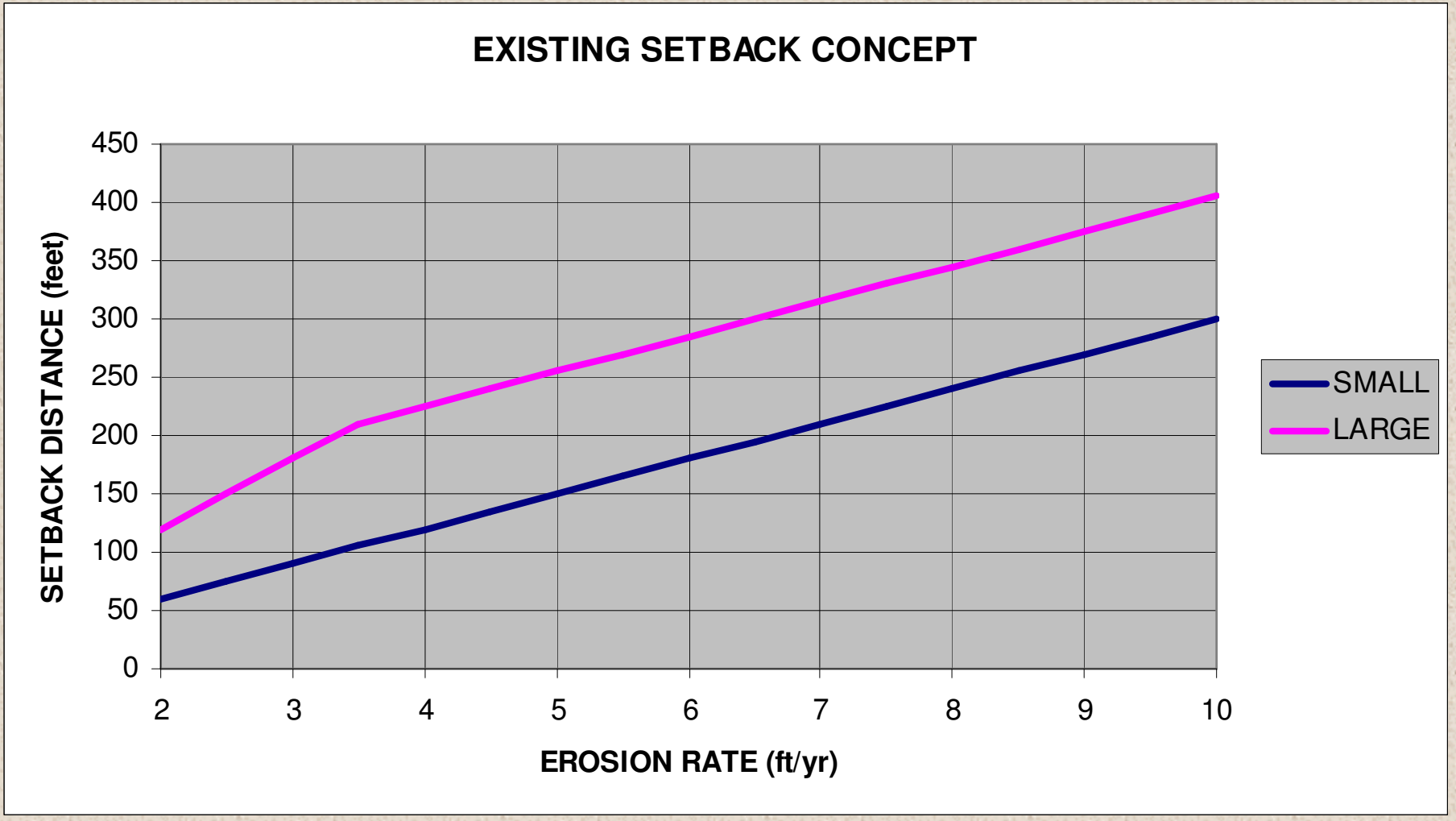
- Proposed setback changes approved for public hearing at March 2008 CRC meeting.
- Five public hearings scheduled for July 2008.

# FIVE POLICY CHANGES

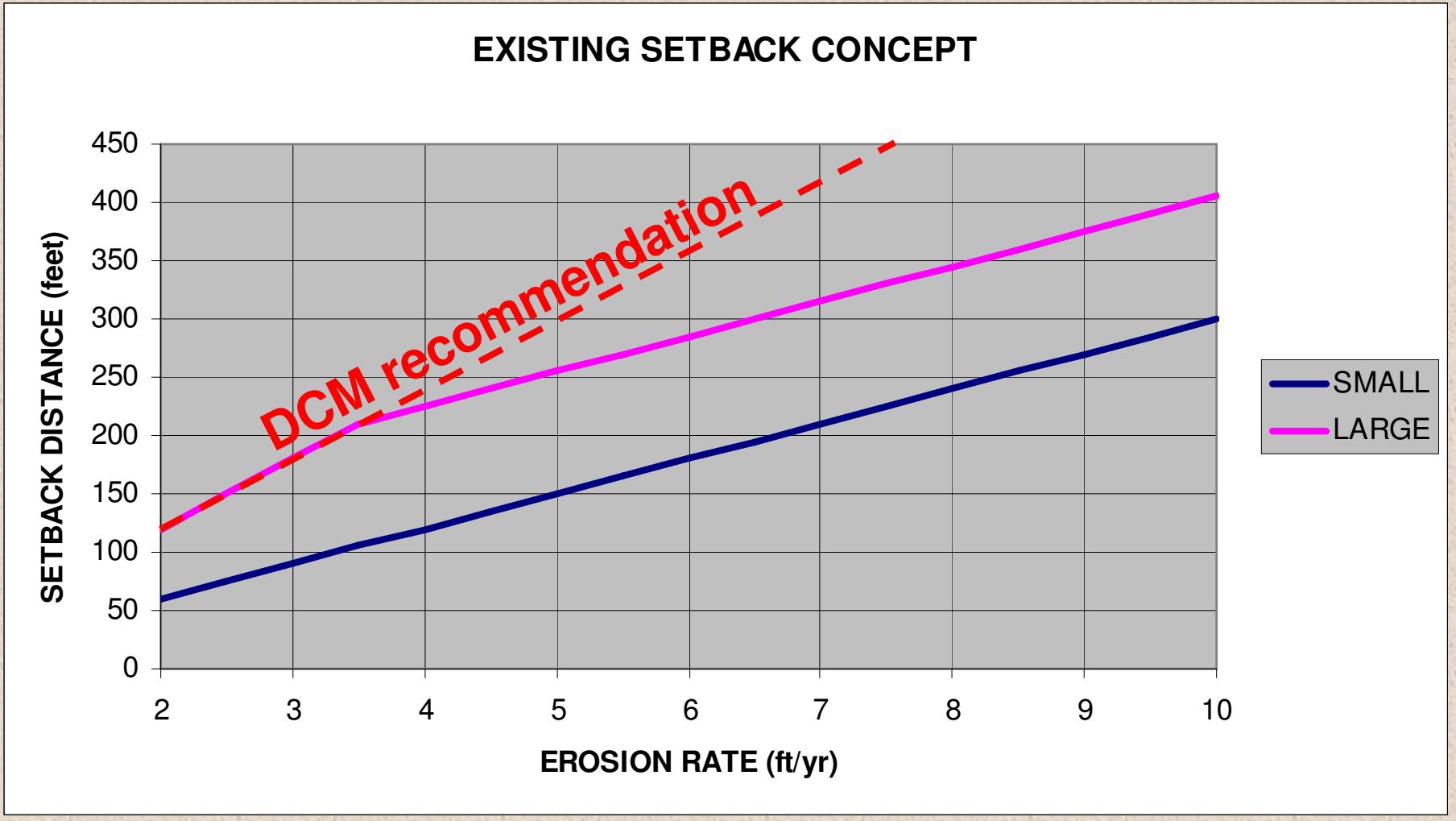
1. Setbacks based on size and not use
2. No setback relief given for higher erosion rates
3. Increased setbacks graduated between 60 and 90 for structures between 10,000 and 100,000 sq ft
4. Exception provided for infrastructure
5. No cantilevering into setback

# Large single family structures no longer exempt from higher setbacks

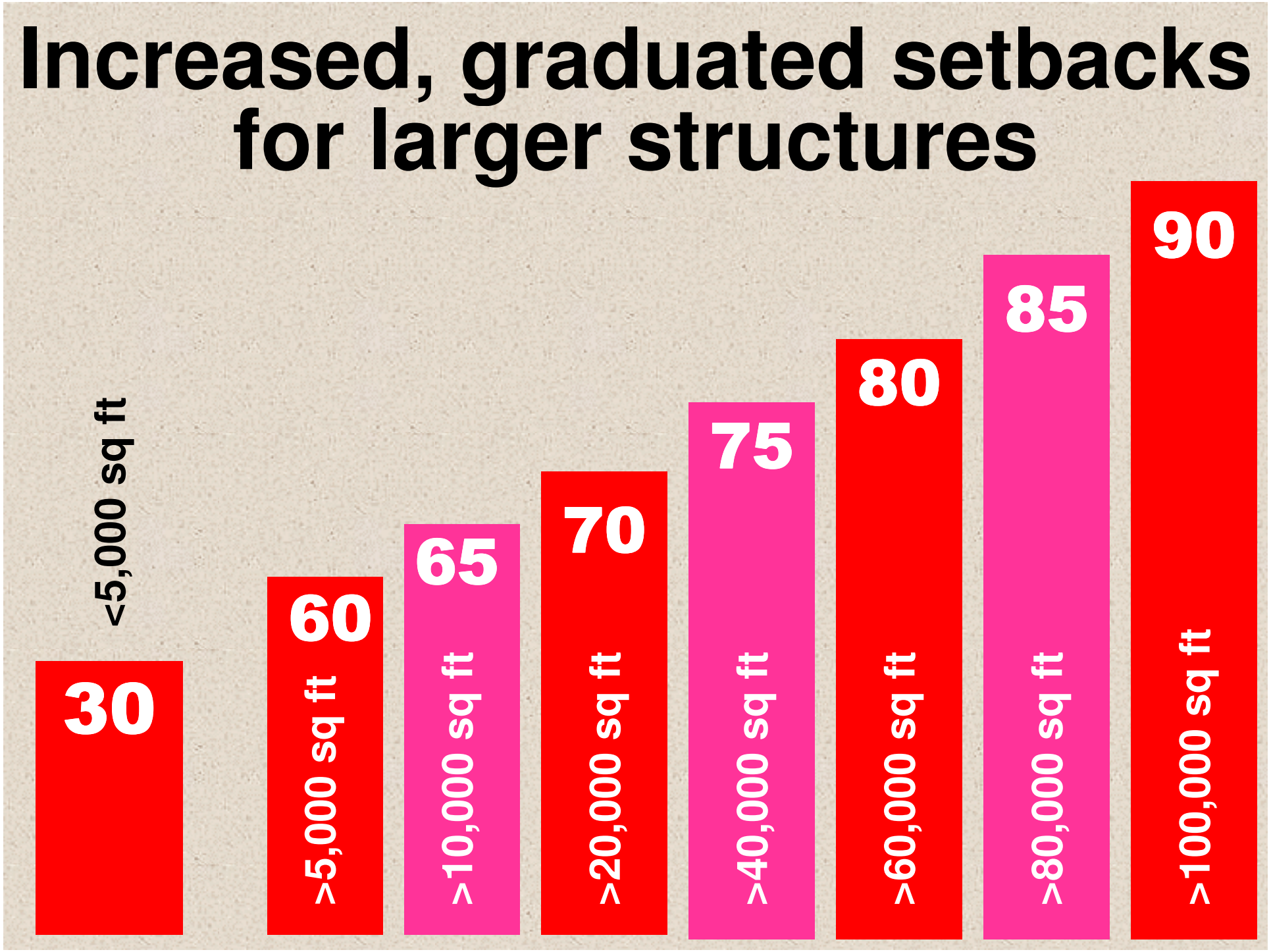
# No setback relief for higher erosion rates



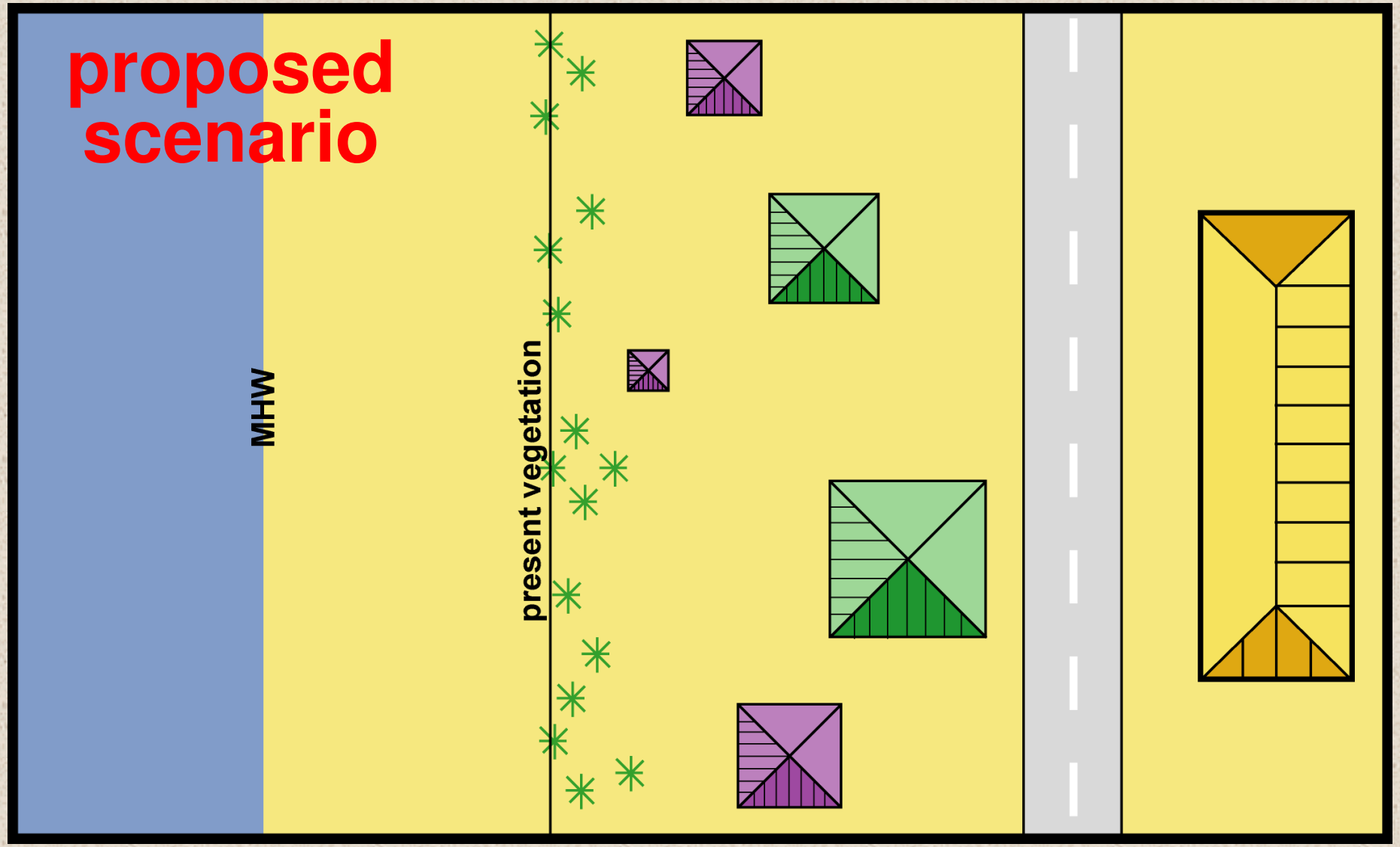
# No setback relief for higher erosion rates



# Increased, graduated setbacks for larger structures

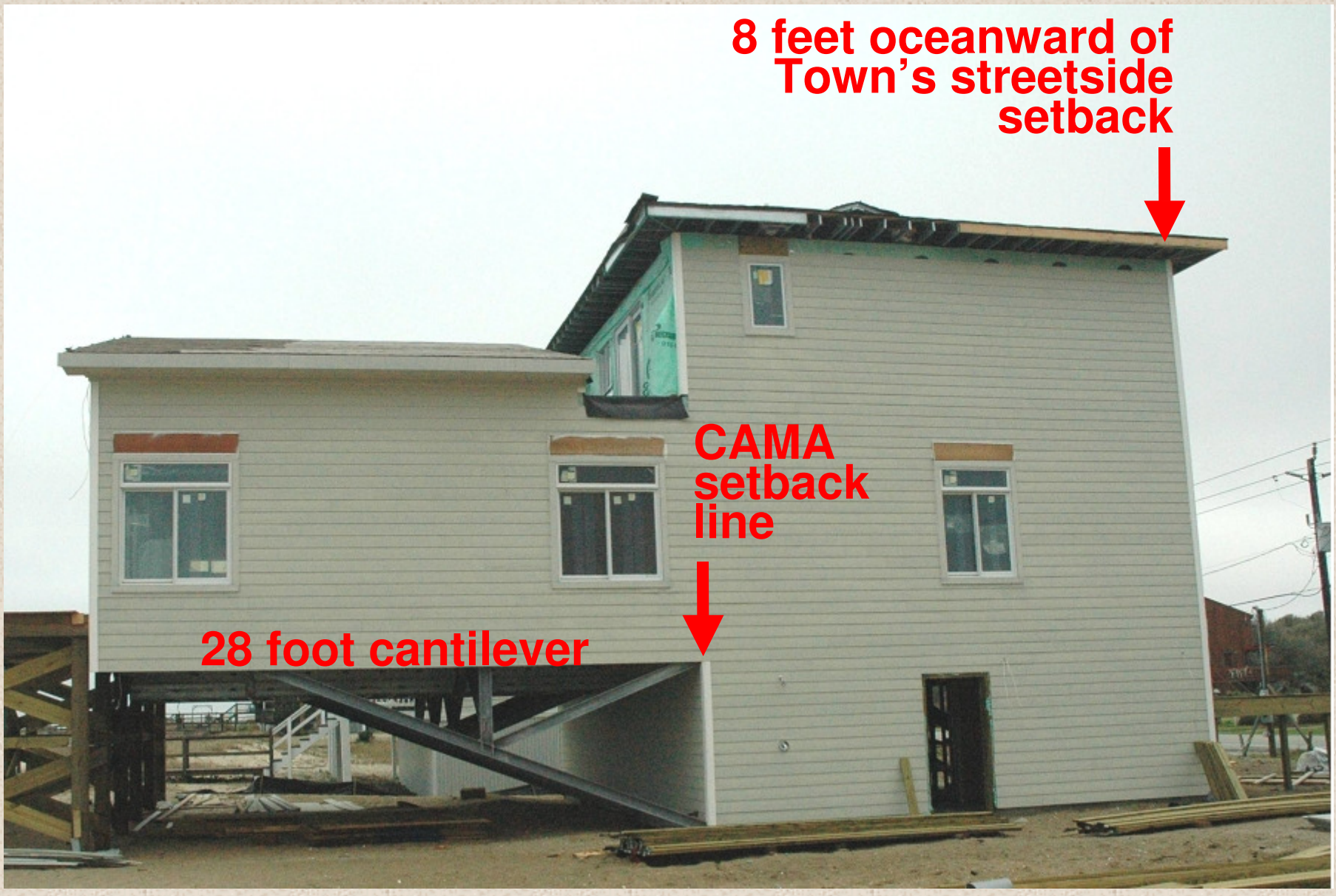


# Increased, graduated setbacks for larger structures



# Infrastructure exceptions

# No cantilevering into setback

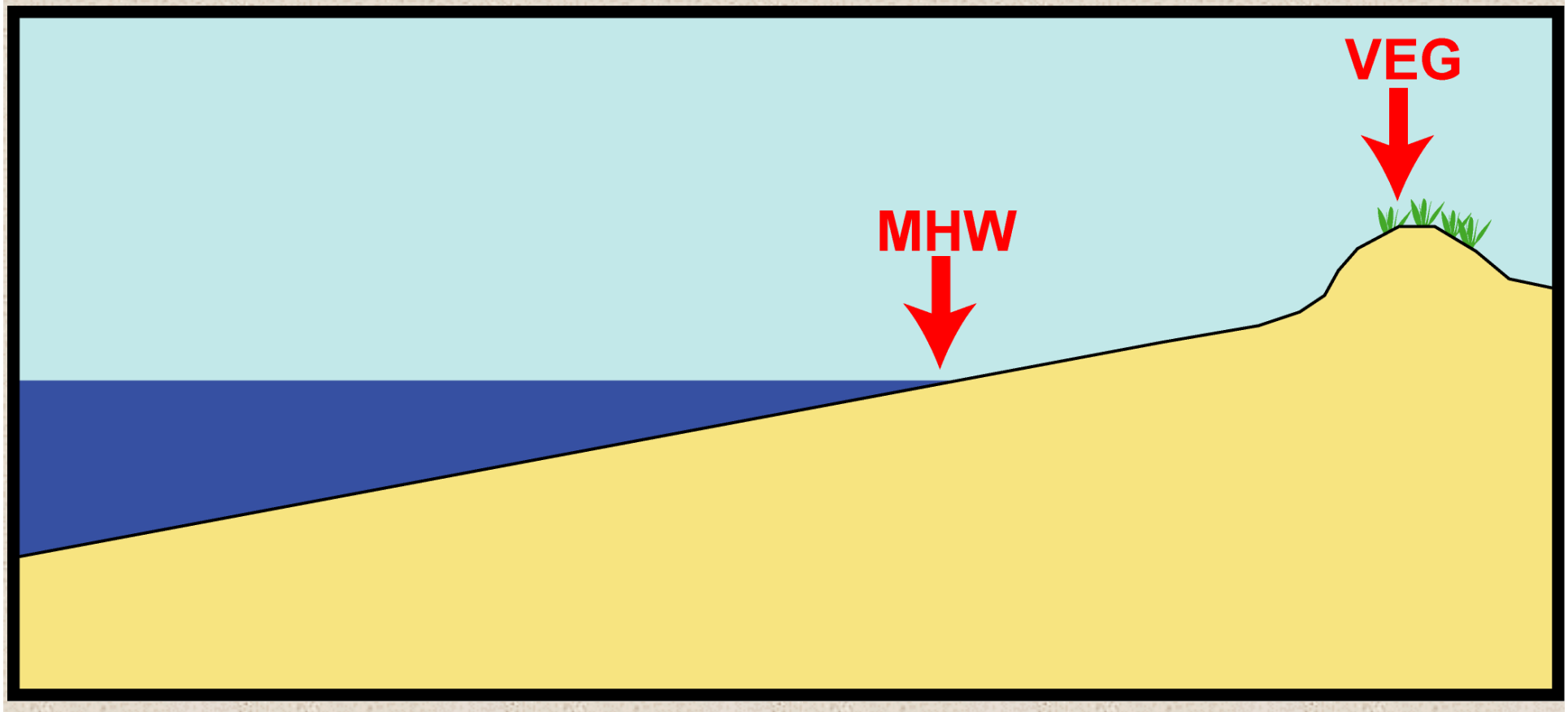


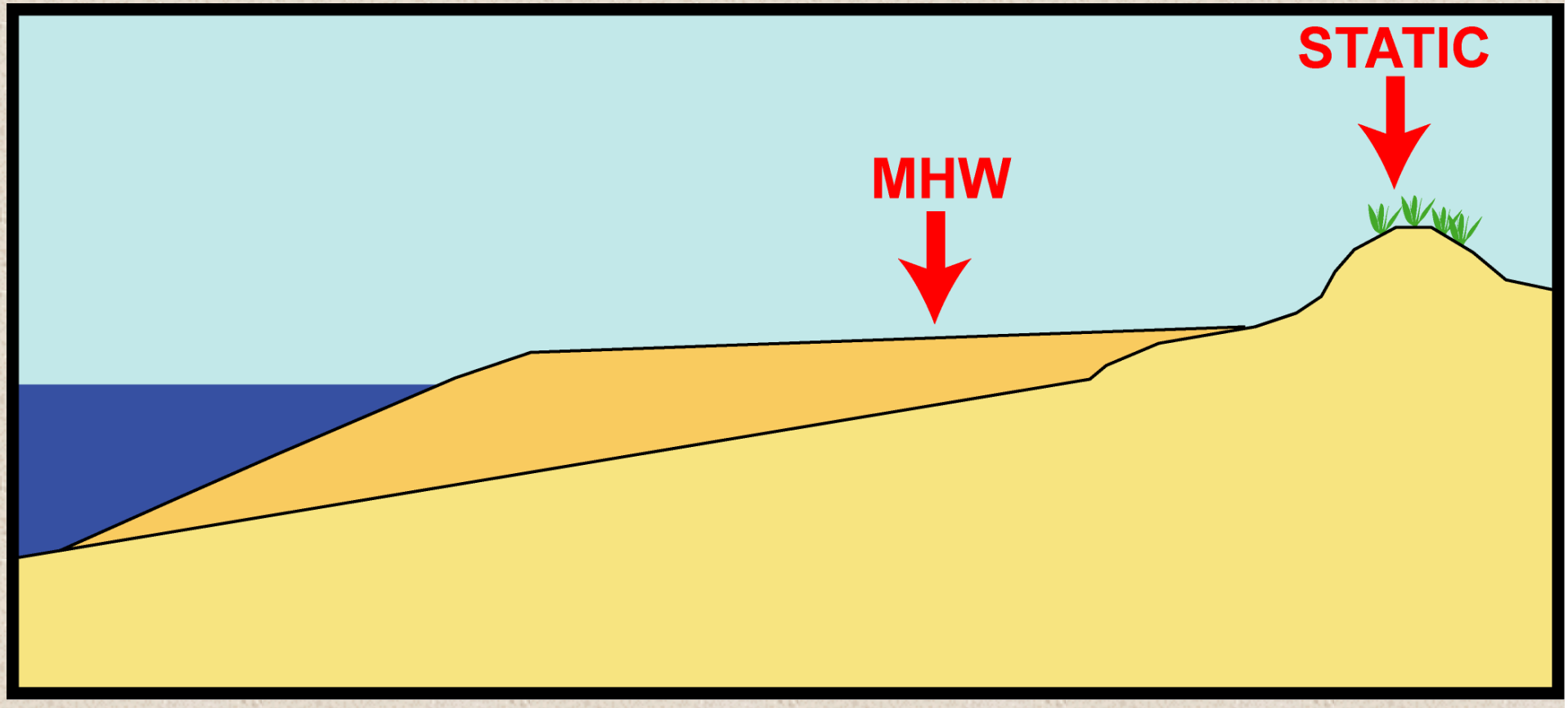

1009 Ft. Fisher Blvd., Kure Beach *(photo credit: Spencer Rogers)*

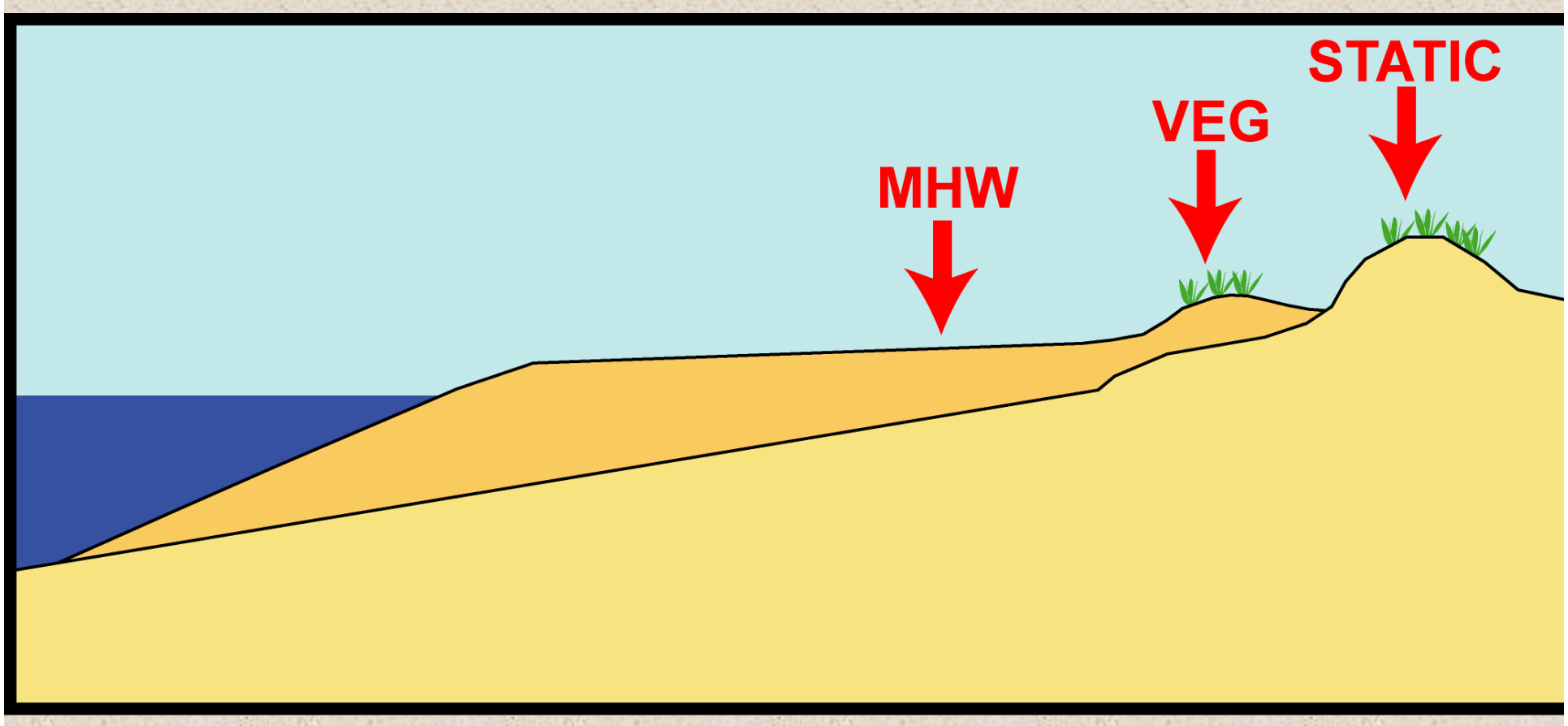
# STATIC VEGETATION LINE

- **Proposed static line rules approved for public hearing at March 2008 CRC meeting.**
- **Five public hearings scheduled for July 2008.**

# Defining the Static Line




STATIC
MHW


STATIC
VEG
MHW

# THREE POLICY CHANGES

1. Change in definition of large-scale project to >300,000 cubic yards
2. AVL provision abandoned so Oak Island and Ocean Isle static lines will be changed to 1998 veg line
3. Exception to static line allows limited development under limited conditions landward of large-scale beach fill projects with long-term maintenance

# Defining large scale

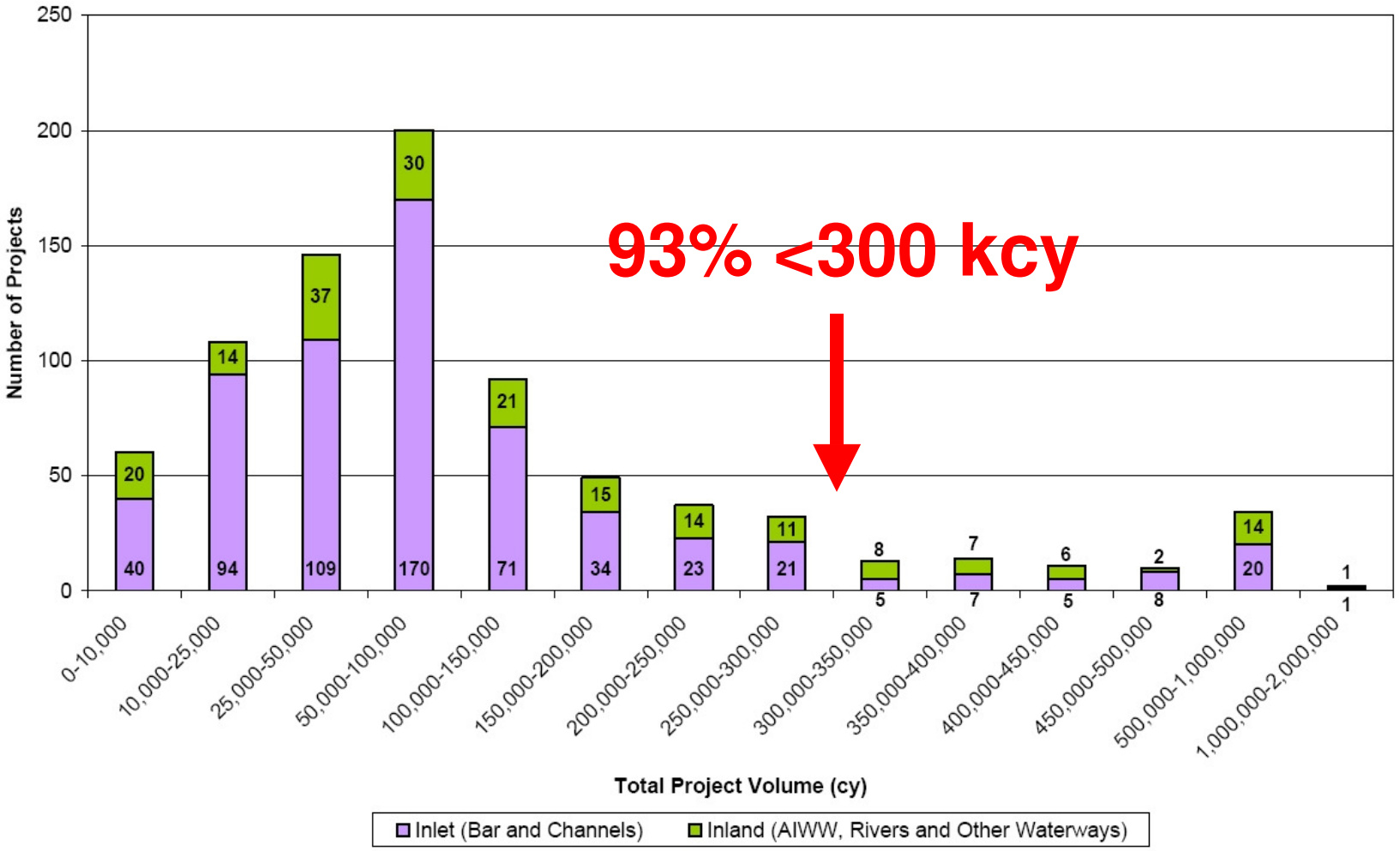



Figure II-8. Project Sizes (FY 1975 – 2004)

# Beach Fill criteria

1. Large scale (USACE or >300,000 cy)
2. >30 yr design life
3. Proof of compatible sediment for life of project
4. Resources to pay for life of project
5. Town petitions, CRC decides

# Additional development criteria

- >5 yr waiting period
- must meet veg line setback
- TFA <2500 sq ft
- Use current erosion rate
- In-line with adjacent structures
- No swimming pools oceanward of static line

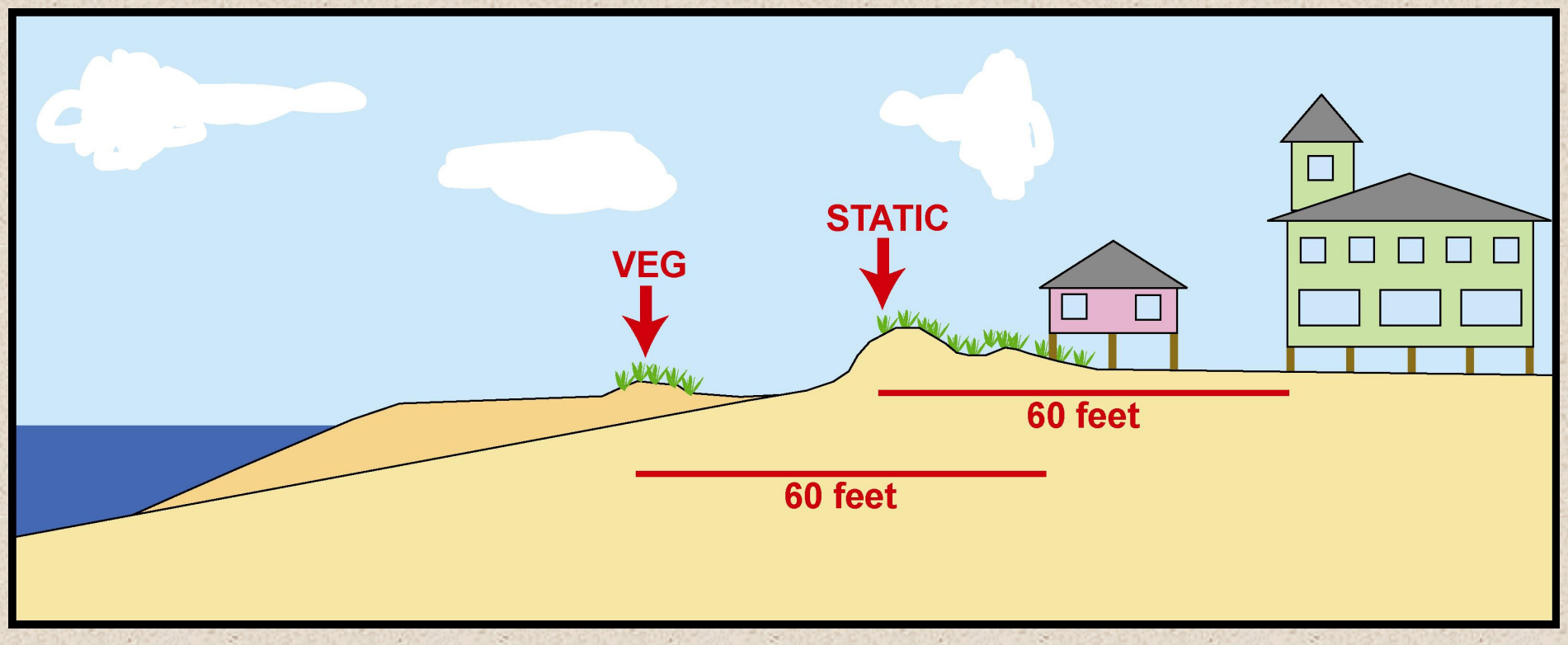
# Additional development criteria

- ***Areas receiving a static line exception will be ineligible for single family exception***
- ***CRC shall review beach fill project every five years***

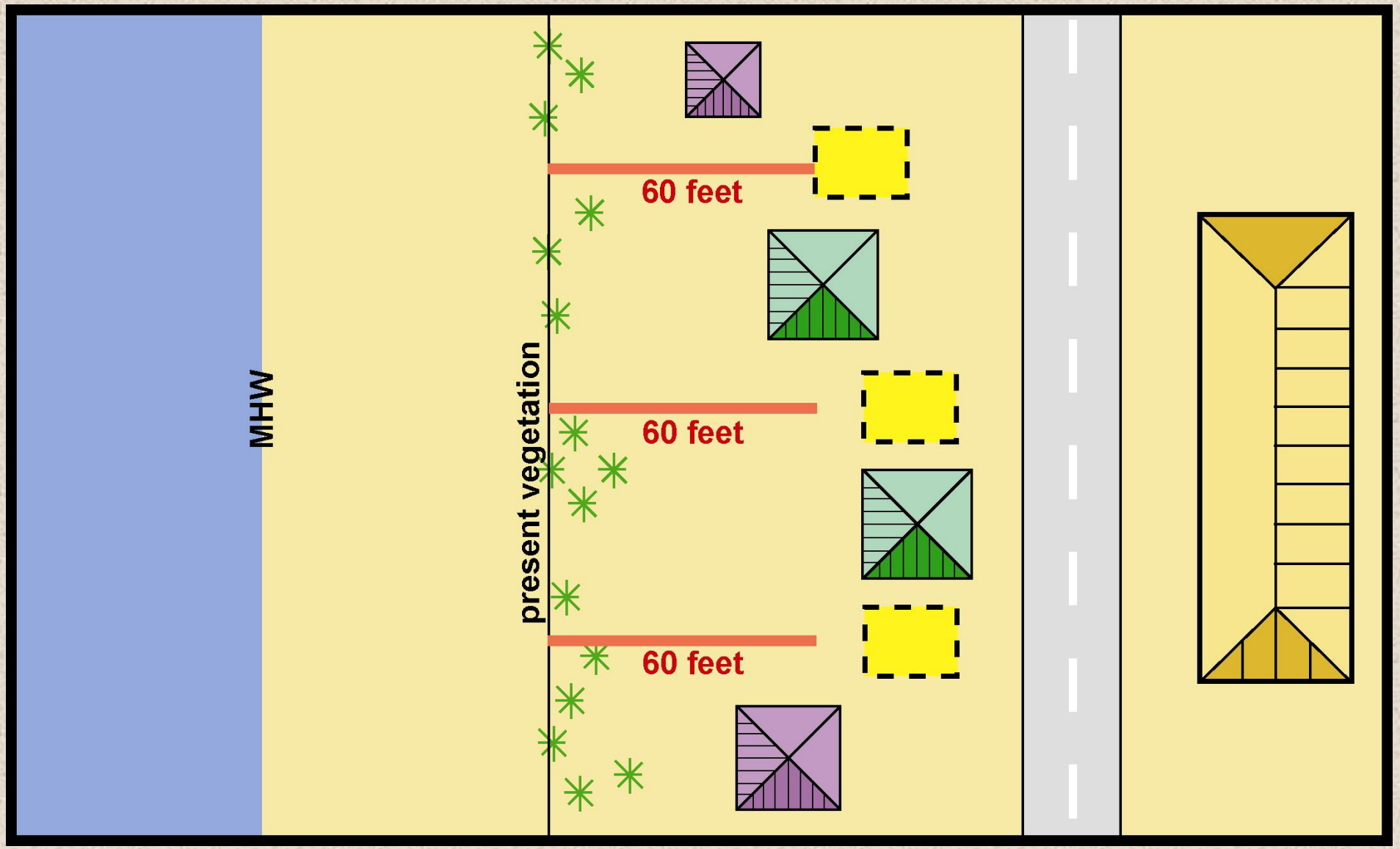
***More info online:***

***www.nccoastalmanagement.net/setbacks.htm***

# Development scenario



# Development scenario



# SEDIMENT CRITERIA FOR BEACH FILL

- ***Became effective February 1, 2007***
- ***Represents a three year-long integration of science and policy***

***More info online:***

***www.nccoastalmanagement.net/sediment.htm***

# SEDIMENT CRITERIA FOR BEACH FILL

- ***New rules provide an objective definition of sediment compatibility for beach fill project and outline specific protocols for sampling both the recipient beach and the proposed borrow site in order to correctly characterize the material found there.***

# SEDIMENT CRITERIA FOR BEACH FILL

- ***New rules are a significant step forward in North Carolina's efforts to improve the quality of material used in beach nourishment projects.***

# SEDIMENT CRITERIA FOR BEACH FILL

- ***Public hearing for minor changes in rule language for clarification to was held at November 2007 CRC meeting in Greenville***

***More info online:***
***www.nccoastalmanagement.net/sediment.htm***

# INLET HAZARD AREAS

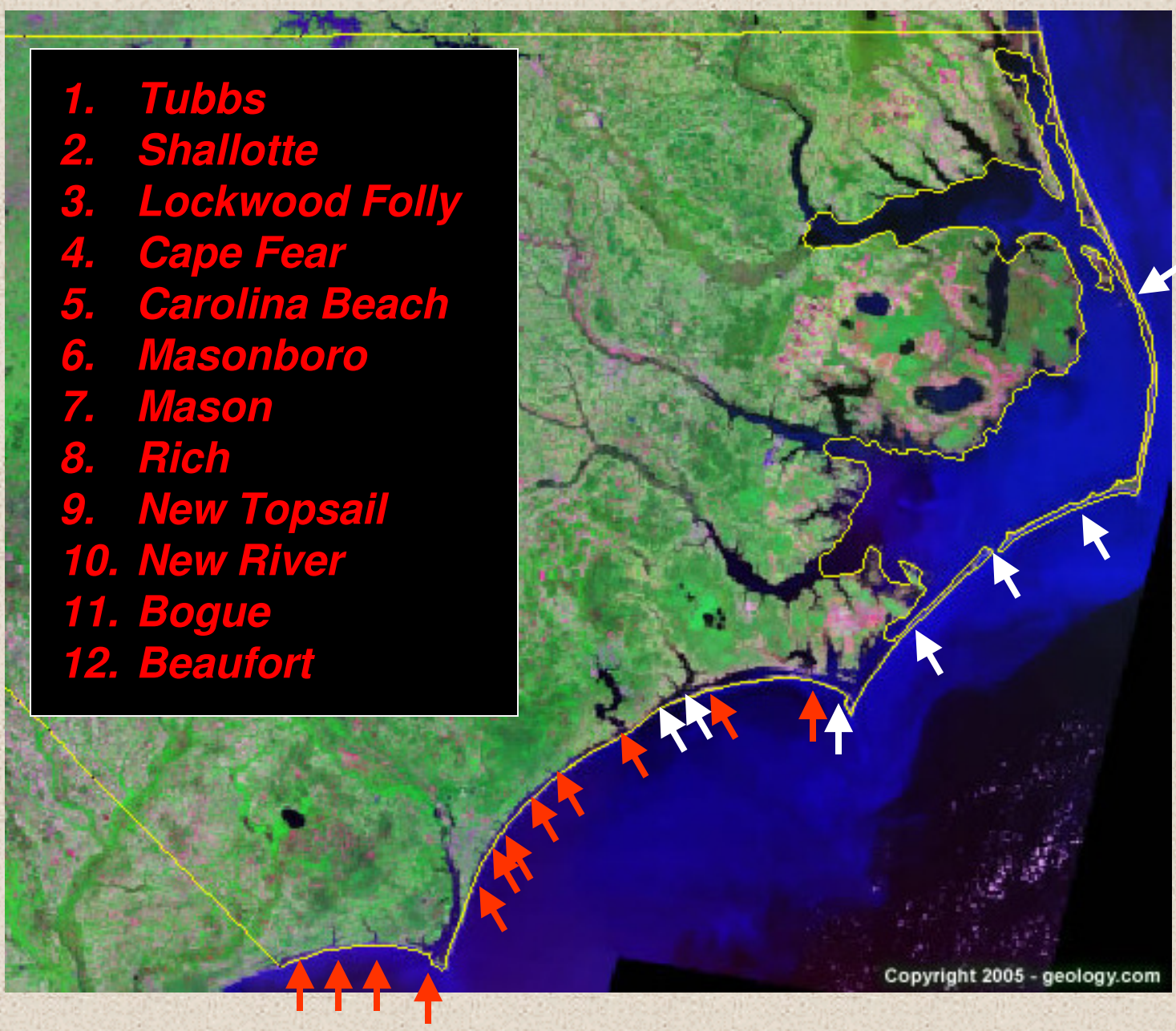
- ***Boundaries for NC's 12 developed inlets presented to CRC in September 2007***
- ***Final report defining new boundaries will be presented with draft rule changes at May 2008 CRC meeting***

# INLET HAZARD AREAS

- Old report dates back to 1978 and only looked at lateral movement of inlets.

# INLET HAZARD AREAS

- New boundaries incorporate new technology, new data, new methodologies as well as expert knowledge of the individual inlets and inlet processes in general.


1. Tubbs
2. Shallotte
3. Lockwood Folly
4. Cape Fear
5. Carolina Beach
6. Masonboro
7. Mason
8. Rich
9. New Topsail
10. New River
11. Bogue
12. Beaufort
Copyright 2005 - geology.com

# INLET HAZARD AREAS

- New use standards
  - New inlets?
  - Erosion rates?
  - Structure sizes? (<5,000 sq. ft.)

# Ocean Shoreline Erosion Control Activities

# TEMPORARY EROSION CONTROL STRUCTURES (SANDBAGS) 15A NCAC 07H.0308(a)(2)

# TEMPORARY EROSION CONTROL STRUCTURES (SANDBAGS)

- **In 1995 the CRC amended the specific use standards for temporary erosion control structures to address public concern over the size and permanency of sandbag structures. These amendments addressed the size and location of sandbag structures, the size limits for individual sandbags, the physical orientation of the sandbags in relation to the shoreline, as well as the timelines for removal of sandbags.**

# TEMPORARY EROSION CONTROL STRUCTURES (SANDBAGS)

- **The 1995 amendments required that temporary erosion control structures be limited to sandbags placed above mean high water and parallel to the shore. Protection was limited to imminently threatened roads and associated right-of-ways, and buildings and associated septic systems. Sandbags were required to be tan in color and 3 to 5 feet wide and 7 to 15 feet long when measured flat. The base width could not exceed 20 feet the height could not exceed 6 feet.**
- **These requirements remain in place today.**

# TEMPORARY EROSION CONTROL STRUCTURES (SANDBAGS)

- **1995 amendments also allowed sandbag structures to remain in place for up to two years after the date of approval if protecting a building with a total floor area of 5000 sq. ft. or less, or, for up to five years if protecting a building with a total floor area of more than 5000 sq. ft. or a bridge or road. If the sandbags were located within a community that was actively pursuing beach nourishment, they could remain for up to five years, regardless of the size of the structure.**

# TEMPORARY EROSION CONTROL STRUCTURES (SANDBAGS)

- **In 2000 the rules were amended to allow temporary sandbag erosion control structures to remain in place for up to five years or until May 2008, whichever is later, regardless of the size of the structure it is protecting if the community in which it is located is actively pursuing a beach nourishment project as of October 1, 2001. This rule only allows structures conforming to current size limits to be eligible for the time extension.**

# TEMPORARY EROSION CONTROL STRUCTURES (SANDBAGS)

- **Approximately 369 sandbag structures in North Carolina**
- **Approximately 149 structures subject to removal in 2008**

# PERMANENT EROSION CONTROL STRUCTURES

**Permanent erosion control structures may cause significant adverse impacts on the value and enjoyment of adjacent properties or public access to and use of the ocean beach, and, therefore, are prohibited. Such structures include bulkheads, seawalls, revetments, jetties, groins and breakwaters.**

# Exceptions



# Oregon Inlet

Terminal groin completed in 1990

Mechanical sand bypass annually

**CAMA was amended in 2003 putting into law the ban on permanent erosion control structures that have been in the Coastal Resources Commission's rules since 1985.**

**Amendment was the result of a Senate Bill that was passed with the intention of strengthening the ban on sea walls.**

## Challenges…

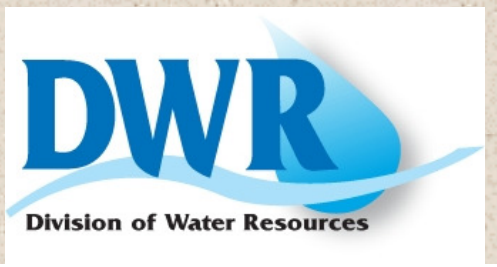
- NC Senate Bill 599 was introduced in the 2007 Legislative Session.
- Bill would allow the CRC to permit the construction of a terminal groin in conjunction wit a "pilot project" to study the use of terminal groins to stabilize ocean inlets.
- Bill cleared the Senate and will be taken up in the House Environmental Review committee in the upcoming short session.

# COMPREHENSIVE BEACH AND INLET MANAGEMENT PLAN

# BIMP facts

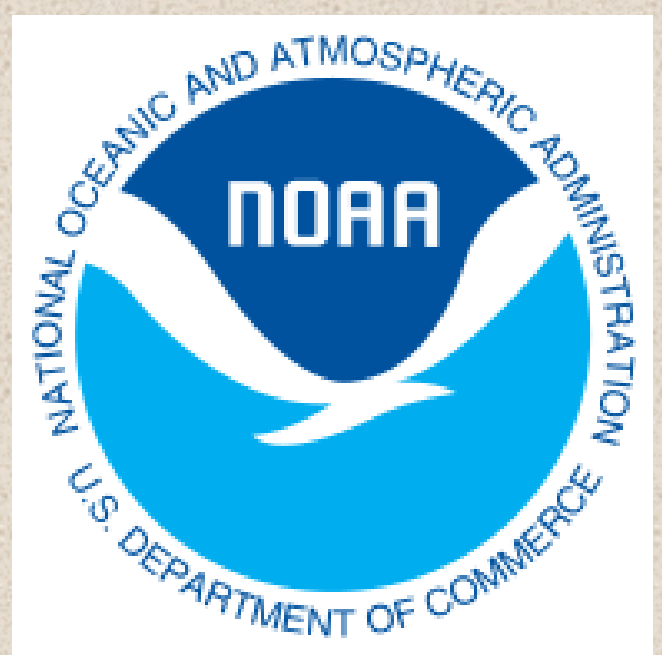
- ***Joint project between DCM and DWR***
- ***Funding at $750,000 for initial 18-month contract signed on Sept 10, 2007***
- ***Moffatt & Nichol to assist DENR with preparation of BIMP***





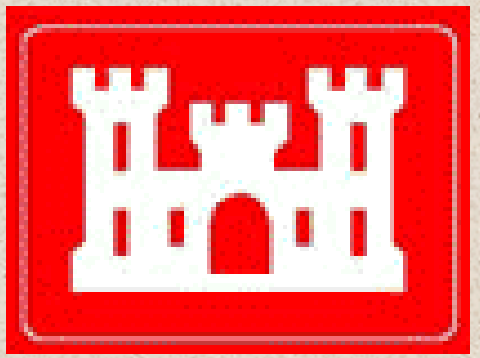

# BIMP facts

- ***DCM received a two-year NOAA Coastal Services Fellow to assist with the BIMP (Aug 2007 through Aug 2009)***



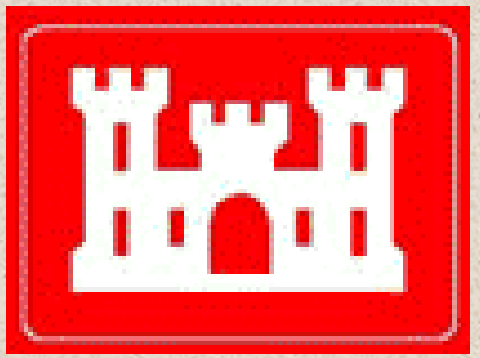

# BIMP facts

- ***DCM working with Mobile and Wilmington Districts to be the first state to integrate USACE eCoastal enterprise GIS platform***

# BIMP facts

- ***DCM assisted USACE with two Regional Sediment Management proposals for current FY that will assist with the BIMP efforts***

# Five *initial* goals

1. *ID and acquire data for determination of preliminary and conceptual sediment budget as well as vulnerability ranking*
2. *Define beach and inlet management regions (and sub regions) along coast*

# Five *initial* goals

***3. Hold and facilitate stakeholder meetings***

***4. Develop draft management strategies based on current coastal policy***

***5. Final report***

***More info online:***

***www.nccoastalmanagement.net/bimp.htm***

# MAJOR GOAL

***Ensure that the BIMP is a living document and a general philosophy rather than a finite effort ending with a report. The BIMP must be a sustainable, long-term effort in order to provide effective coastal management.***